Finite Element Method
(CIEE 703 / IMSC 003)

Semester Syllabus

Part 1: Course Information

Instructor Information

Instructor: Prof. Kun Pang Kou
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Course Description

Basic concepts, Virtual work and energy methods, Weighted residual methods, Rayleigh-Ritz and Galerkin methods, Finite element displacement method, Interpolation functions, Plate stretching and plane strain.,Triangular elements, Isoparametric elements, Three dimensional stress analysis, Plate bending, Field problems, Vibrations, Stability, Nonlinear behaviour, Hybrid elements.

Prerequisite
None

Course Duration
42 contact hours, 3 hours per week (3-credit course)

Credit: 3

Compulsory/elective course: Compulsory

Part 2: Course Objectives

1. Introduce students to fundamental theory of finite element method such as weak form development, application of master element, etc.
2. Introduce students to numerical techniques such as matrix assembly, Gaussian quadrature, Cholesky method, etc.

Part 3: Major Assessment Methods

Homework:	20%
Midterm exam:	35%
Final exam:	45%